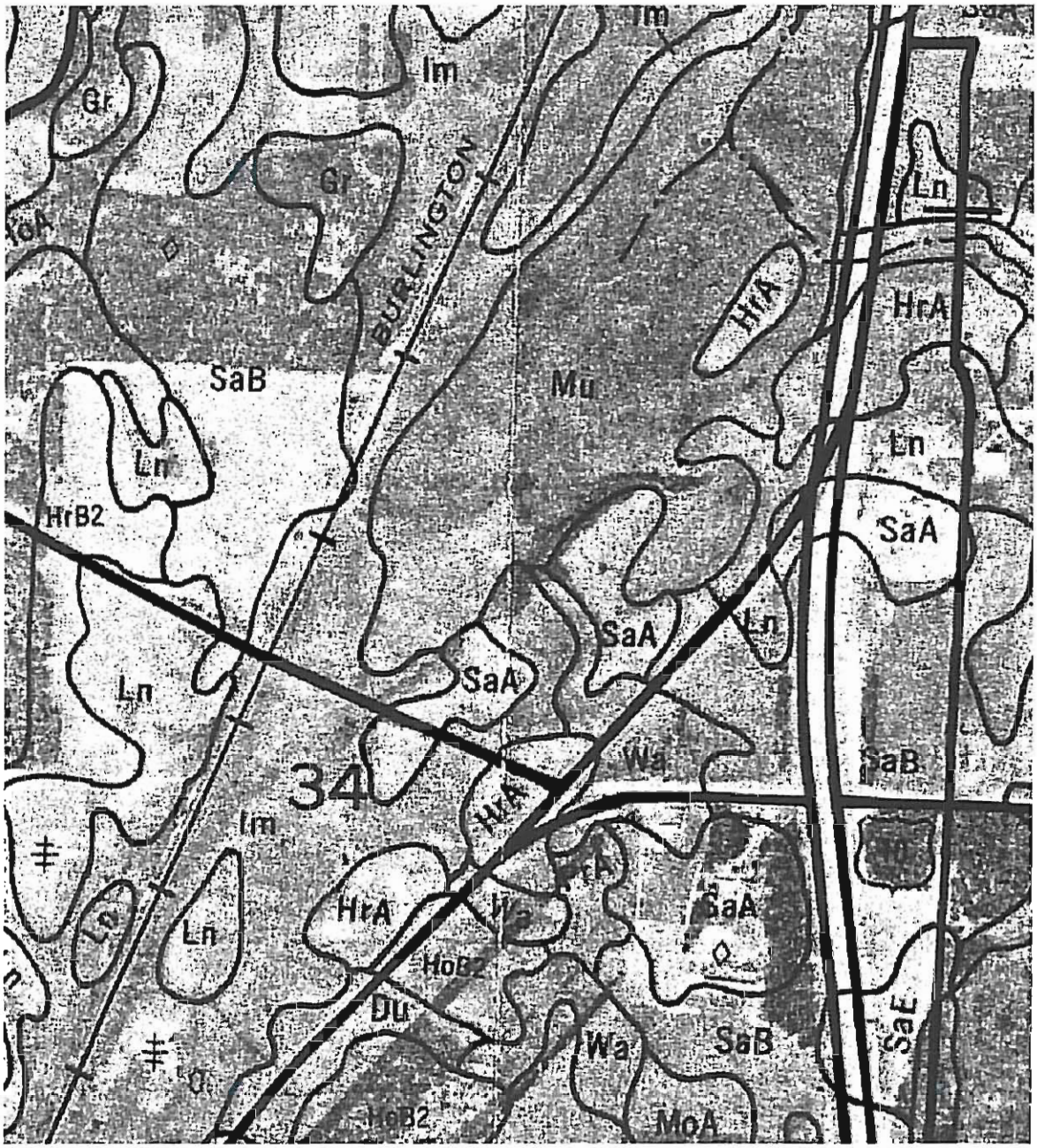
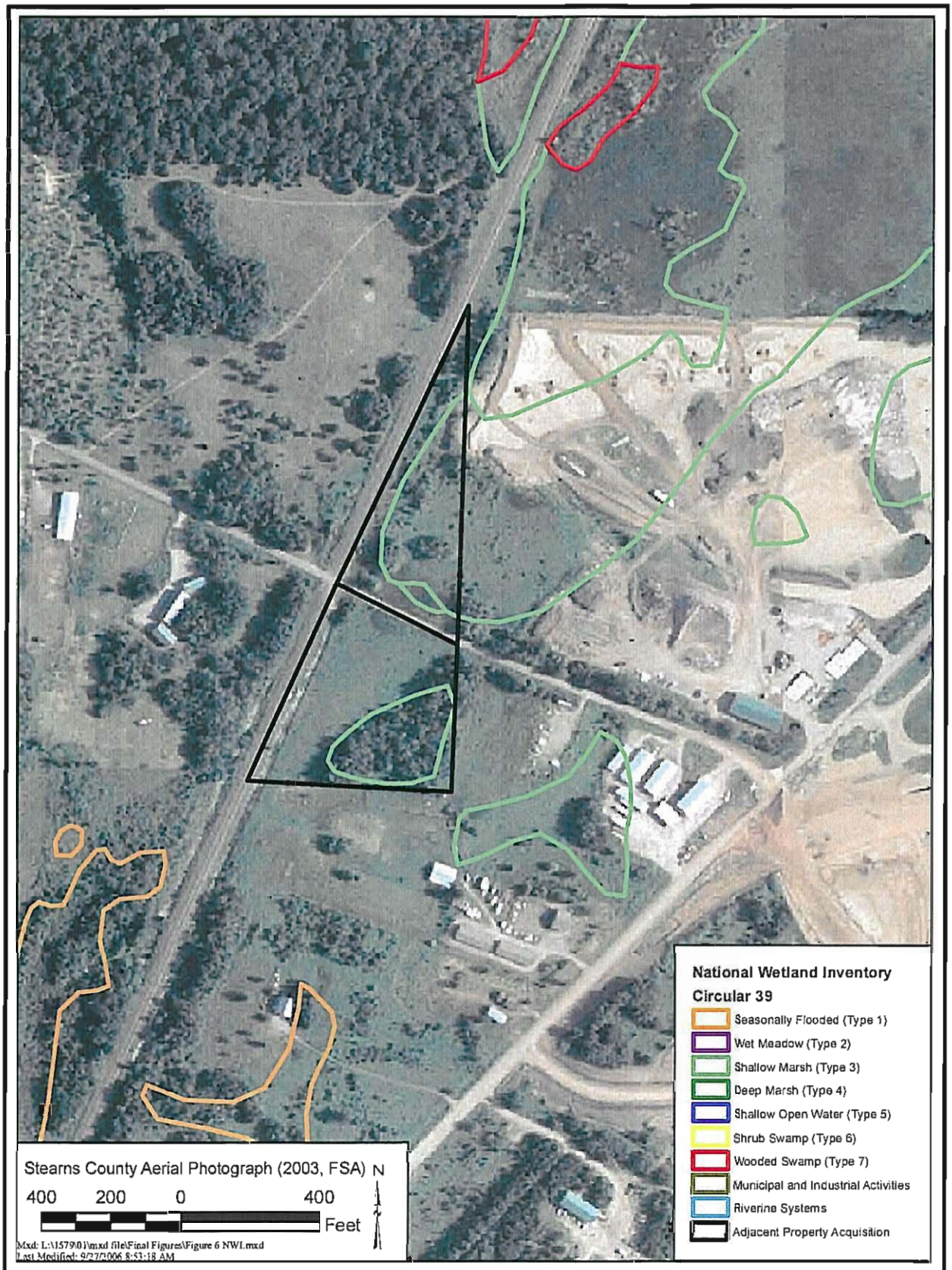


N

Image is not to scale

Mxd: L:\1579.01\mxd file\Final Figures\Figure 8 100-Year Floodplain Map.mxd
Last Modified: 9/27/2006 8:58:58 AM

HENKEMEYER LANDFILL, INC	Wenck Associates, Inc. 1800 Pioneer Creek Center Environmental Engineers Maple Plain, MN 55359-0429	SEP 2006
Benton County Soil Survey		Figure 5



HENKEMEYER LANDFILL, INC.	Wenck Associates, Inc. 1800 Pioneer Creek Center Environmental Engineers Maple Plain, MN 55359-0429	SEP 2006
National Wetland Inventory Map		Figure 6

HENKEMEYER LANDFILL, INC.

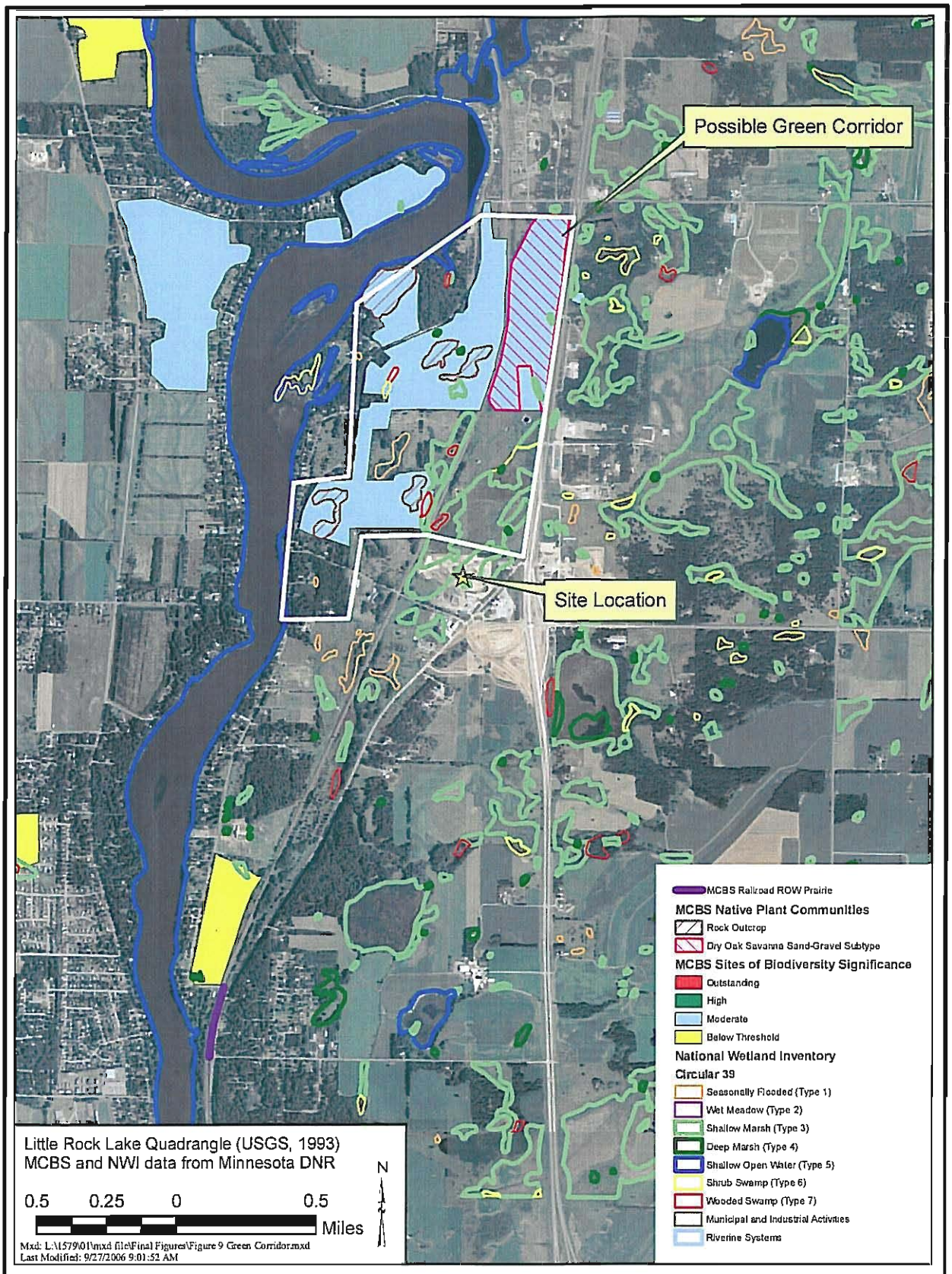
Public Waters Inventory Map

Wenck

Wenck Associates, Inc. 1800 Pioneer Creek Center
Environmental Engineers Maple Plain, MN 55359-0429

SEP 2006

Figure 7



HENKEMEYER LANDFILL, INC.

Natural Areas and Potential Green Corridors

Wenck

Wenck Associates, Inc. 1800 Pioneer Creek Center
Environmental Engineers Maple Plain, MN 55359-0429

SEP 2006

Figure 9

Appendix A

Minnesota Wetland Conservation Act

Restoration Order

WETLAND CONSERVATION ACT
RESTORATION ORDER

The Commissioner of Natural Resources hereby orders Gerome Henkemeyer and his/hers/its/their heirs, successors, and assigns to restore the wetland located South ½ of the NE ¼ , Section 34 T-37 N, R-31 W

Findings of Fact: Wetland areas surrounding the previously existing landfill, mostly to the North and West, have been cleared and prepared for use as a demolition landfill. The preparation and the use of the wetland areas as a landfill constitute filling a wetland.

You shall accomplish restoration by doing the following: Remove all fill in the wetland, replace excavated areas with hydric soils to a one foot depth. Any structures or footings for structures or any part of any structure or fill should be located outside of wetland areas. The restoration area will be seeded with a wetland seed mix approved by the Board of Water and Soil Resources.

Attachments are a part of this document (circle one) ***Yes*** ***No***

This order is issued pursuant to Minn. Stat. ↄ 103G.2372 and MN Rule part 8420.0290.

On or before September 17, 2003 , you must either:

A. restore the wetland in the manner required by this order and obtain a ACertificate of Satisfactory Restoration/Replacement from the Benton Soil and Water Conservation District;

B. submit an application for approval of a replacement plan to Benton County (the local government unit); or

C. apply to Benton County (the local government unit) for an exemption or no-loss determination.

This order will be canceled if you obtain a ACertificate of No-Loss or Exemption from the local government unit (Nick Tomczik @ 320-968-5065), or a certificate from the local government unit that replacement has been completed according to an approved replacement plan. Otherwise, you must restore the wetland in the manner required by this order. Upon completion of the work required by this order, contact the Benton Soil and Water Conservation District (Mark Hauck @ 320-968-5300) for a Certificate of Satisfactory Restoration / Replacement. **Violation of this order is a misdemeanor.**

Julie Olson 8-13-03

[Enforcement Officer] [Date]

Distribute Copies To:
Landowner
BWSR Board Conservationist
DNR Conservation Officer
Local Government Unit (LGU)
DNR Wetland Enforcement Office
Soil and Water Conservation District (SWCD)

Appendix B

USACE Comment Letter – October 25, 2006

MEMORANDUM

Date: 25 October 2006

RE: *Comments on Wetland Restoration and Compensatory Mitigation Plan for the Henkemeyer Demolition Landfill, Inc.*

1. The report states that protection in perpetuity will be accomplished "subject to existing easements." The existing easements need to be identified so that the Corps can determine if there are any conflicts with the goals for the site.

2. The monitoring plan needs to be more specific. Annual reports for five years are mentioned. A vegetation survey at the end of the 3rd and 5th growing seasons is also mentioned. Both are good points. But how would the vegetation sampling be accomplished? Determining whether the performance standard is met for, "Fifteen or more species of native grasses, sedges, rushes, forbs and/or ferns. Sedges characteristic of sedge meadows...achieving 50 percent areal cover...," can best be measured by establishing permanent transects and plots. What is the plan for this?

3. Section 5.a.3. should be modified to add "but not limited to" so that it reads, "At the end of the third, fourth and fifth growing seasons, less than 20 percent cumulative areal cover of invasive and/or non-native species including but not limited to...". *Phragmites* is another species that needs to be controlled in a sedge meadow restoration.

This section simply states "cattails" as invasive species that need to be controlled, which is correct. The text states (page 5) that narrow-leaved cattails will be treated with herbicide. Hybrid cattail is actually a greater problem than narrow-leaved cattail. Another factor is that it can be difficult to distinguish broad-leaved, narrow-leaved and hybrid cattails in the field, especially when dealing with young plants sprouting on a restoration site. The solution is to treat all cattails as invasive. The restoration plan should be clear that all cattails will be controlled via herbicide applications or other methods.

4. Section 5.b. needs to be more specific with regard to the reduction in areal cover by invasive and/or non-native species in the wetland and upland vegetation management areas. Since large portions of these areas already have less than 20 percent areal cover of invasives/non-natives, they would meet that performance standard with no mitigation work. For example, the buckthorn infestation within the 1.7-acre upland forest covers about 20 percent of that area. The recommended performance standard is to achieve an 80 percent reduction in the existing areal cover of invasive and/or non-native species shown on Figure 3 by the 3rd, 4th and 5th growing seasons. Transects and permanent plots (e.g., 3m x 3m for herbaceous species and 10m x 10m for buckthorn control areas) should be established so that the estimates of percent areal cover can be compared year to year.

5. Regarding hydrology, a contingency plan is needed should problems arise in reestablishing the 1041.0-1041.5 elevation. Organic soils compressed under fill material may "spring back" to varying degrees once the weight of the fill is removed. Should problems arise, it is advisable to

install monitoring wells in the restoration area to confirm that the hydrology performance standard for sedge meadows is met.

Steve Eggers
Senior Ecologist
Regulatory Branch

Appendix C

Covenant Guidance

CREATION AND GRANT OF COVENANTS

This GRANT OF THESE COVENANTS is made by _____, residing at _____ (hereinafter referred to collectively as the "Covenantor") to the St. Paul District of the United States Army Corps of Engineers, (hereinafter referred to as "Government").

WITNESS THAT:

WHEREAS, the Covenantor is the owner in fee of certain real property located in the County of _____, in the State of Minnesota, described more particularly as follows, and referred to herein as the "Conservancy Area":

WHEREAS, the Covenantor desires and intends that the natural elements and the ecological and aesthetic values of the Conservancy Area be maintained and improved in accordance with the terms and conditions of these Covenants; and

WHEREAS, the Covenantor and Government both desire, intend and have the common purpose of conserving and preserving in perpetuity the Conservancy Area in a relatively natural condition by placing restrictions on the use of the Conservancy Area and by assigning from the Covenantor to the Government, by the establishment of these Covenants, affirmative rights to ensure the preservation of the natural elements and values of the Conservancy Area; and

WHEREAS, the Covenantor has received valuable consideration for the making of these Covenants.

NOW THEREFORE, the Covenantor, for valuable consideration received, does hereby establish, give and assign to the Government an assignable right to enforce the following restrictions against the Covenantor, its successors and assigns if any; any third party holding, or professing to hold, any legal or equitable title to the Conservancy Area; or any trespasser or interloper committing any act on or near the premises inconsistent with these covenants:

a. The right of the Government to enforce by proceedings at law or in equity the Covenants hereinafter set forth. The right shall include but not be limited to, the right to bring an action in any court of competent jurisdiction to enforce the terms of these Covenants, to require the restoration of this property to its natural condition or to enjoin non-compliance by appropriate injunctive relief. The Government does not waive or forfeit the right to take action as may be necessary to ensure compliance with terms of these Covenants by any prior failure to act. Nothing herein shall be construed to entitle the Government to institute any enforcement action against the Covenantor for any changes to the Conservancy Area due to causes beyond the Covenantor's control and without the Covenantor's fault or negligence (such as changes caused by fire, flood, storm, civil or military authorities undertaking emergency action or unauthorized wrongful acts of third parties).

b. The right of the Government, its contractors, agents and invitees, to enter the Conservancy Area, in a reasonable manner and at reasonable times, for the purpose of inspecting the Conservancy Area to determine if the Covenantor is complying with the Covenants and promises, and further to observe, study, record and make scientific studies and educational observations.

AND IN FURTHERANCE of the foregoing affirmative rights, the Covenantor makes the following covenants on behalf of themself and their heirs, successors and assigns, which covenants shall run with and bind the Conservancy Area in perpetuity:

COVENANTS

a. USES. There shall be no commercial, industrial or residential activity undertaken or allowed within the Conservancy Area.

b. BUILDINGS AND STRUCTURES. There shall be no buildings, dwellings, barns, roads, advertising signs, billboards or other structures built or placed in the Conservancy Area.

c. TOPOGRAPHY. There shall be no dredging, filling, excavating, mining, drilling or removal of any topsoil, sand, gravel, rock, minerals or other materials. There shall be no plowing or any other activity that would alter the topography of the Conservancy Area.

d. DUMPING/DISPOSAL. There shall be no dumping of trash, ashes, garbage or other unsightly or offensive material, especially including any hazardous or toxic waste.

e. WATER. The hydrology of the Conservancy Area will not be altered in any way or by any means including pumping, draining, diking, impounding or diverting surface or ground water into or out of the Conservancy Area.

f. AGRICULTURAL USES. No plowing, tilling, cultivating, planting, timbering, or other agricultural activities may take place within the Conservancy Area.

g. The Covenantor is responsible for compliance with all federal, state and local laws governing the safety and maintenance of the property, including the control of noxious weeds within the Conservancy Area.

h. There shall be no operation of any motorized watercraft, vehicle, or equipment within the Conservancy Area.

i. VEGETATION. Except in conjunction with the authorized uses set forth in paragraph g. above, there shall be no removal, cutting, mowing or alteration of any vegetation or change in the natural habitat in any manner.

NOTWITHSTANDING the foregoing restrictions, the Covenantor may construct and maintain any project features or mitigation features expressly required as part of the settlement of U.S. v. Henkemeyer and Riley Bros. Inc.

RESERVED RIGHTS

These covenants do not authorize entry upon or use of the Conservancy Area by the general public.

The Covenantor and Covenantor's invitees may hunt and fish in the Conservancy Area so long as they comply with all federal, state and local game and fishery regulations.

Nothing herein shall be construed as limiting the right of the Covenantor to sell, give or otherwise convey the Conservancy Area, or any portion or portions thereof, provided that the conveyance is subject to the terms of these Covenants.

GENERAL PROVISIONS

These Covenants shall run with and burden the Conservancy Area in perpetuity and shall bind the Covenantor and Covenantor's heirs, successors and assigns. These Covenants are fully valid and enforceable by any assignee of the Government, whether assigned in whole or in part. Said assignment may be by operation of law or by written notice of assignment to the Covenantor.

The Covenantor warrants that he/she/it owns the Conservancy Area in fee simple, and that Covenantor either owns all property interests in the Conservancy Area which may be impaired by the granting of these Covenants or that there are no outstanding mortgages, tax liens, encumbrances, or other interests in the Conservancy Area which have not been expressly subordinated to these Covenants by signing below. If it is determined at any time that there is any party who may have a property interest in the Conservancy Area that is superior to these Covenants, then the Covenantor shall immediately obtain and record a consent and subordination agreement signed by the other party. Acceptance of these Covenants does not release the Covenantor from the obligation to obtain and record a consent and subordination agreement signed by any party who may have a property interest in the Conservancy Area that is superior to these Covenants, even if such interest was of record at time of acceptance.

The Covenantor agrees to pay any and all real property taxes and assessments levied by competent authority on the Conservancy Area.

The Covenantor agrees that the terms, conditions, covenants and restrictions set forth in this instrument will be inserted in any subsequent conveyance of any interest in said property. The Covenantor agrees to notify the Government of any such conveyance in writing and by certified mail within 15 days after the conveyance.

The Government may assign or transfer the right to enforce these Covenants to any Federal or state agency or private conservation organization for management and enforcement.

The terms "Covenantor" and "Government" as used herein shall be deemed to include, respectively, the Covenantor and his/her/its heirs, successors, personal representatives, executors and assigns, and the United States Government, acting by and through the U.S. Army Corps of Engineers, and its assigns. If the subject Conservancy Area is to be used partially or wholly to fulfill mitigation requirements under the State Wetland Conservation Act, then the provisions of this

Creation and Grant of Covenants may also be enforced by the State of Minnesota in a court of competent jurisdiction.

TO HAVE AND TO HOLD the above described together with all the appurtenances, rights and privileges belonging thereto, either in law or equity, for the proper use and benefit of the Government and its successors and assigns, forever.

EXECUTIONS AND ACKNOWLEDGMENTS

County of _____)
)
State of Minnesota)

IN WITNESS THEREOF, the Covenantor has hereto set their hand and seal this _____ day of _____, 20_____.

_____

_____

This instrument was acknowledged before me this _____ day of _____, 20_____ by _____ and _____ (name(s) with marital status).

_____

[SEAL] Notary Public
My Commission Expires:_____

CONSENT AND SUBORDINATION

The undersigned consent and subordinate to the foregoing Creation and Grant of Covenants for the Conservancy Area.

SIGNATURE OF MORTGAGEE, IF ANY: _____
(Name of Mortgagee)

By: _____

Its: _____

County of _____)
)
State of Minnesota)

This instrument was acknowledged before me this _____ day of _____, 20_____ by _____ the _____, of_____ a _____ under the laws of _____.

_____
[SEAL] Notary Public
My Commission Expires:_____

SIGNATURE OF HOLDER OF OTHER INTEREST IN REAL PROPERTY, IF ANY: _____

_____

County of _____)
)
State of Minnesota)

This instrument was acknowledged before me this _____ day of _____, 20_____, by _____ (name(s) with marital status).

_____
SEAL Notary Public
My Commission Expires:_____

IF THERE ARE ADDITIONAL HOLDERS OF INTERESTS IN THE REAL PROPERTY, CHECK HERE [ ] AND ATTACH ADDITIONAL SIGNATURE PAGES FOR THEIR CONSENT AND SUBORDINATION

This instrument was drafted by:

_____

using a form developed by the
St. Paul District, U. S. Army Corps
of Engineers

Appendix D

State Historic Preservation Officer Letter

Subject: RE: File Search Request
Date: Thu, 25 May 2006 08:45:00 -0500
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
Thread-Topic: File Search Request
thread-index: AcZ/XLg6VaVsvbCDS3uauazoMQnoCgApJ8MQ
From: "Cinadr, Thomas" <thomas.cinadr@mnhs.org>
To: "Diane Spector" <dspector@wenck.com>
X-SmarterMail-Spam: SPF_None

No archaeological sites were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory for the search area requested. A report containing the historic properties identified is attached.

The result of this database search provides a listing of recorded historic architectural properties that are included in the current SHPO databases. Because the majority of archaeological sites in the state and many historic architectural properties have not been recorded, important sites or structures may exist within the search area and may be affected by development projects within that area. Additional research, including field survey, may be necessary to adequately assess the area's potential to contain historic properties.

With regard to Environmental Assessment Worksheets (EAW), a negative known site/structure response from the SHPO databases is not necessarily appropriate information on which to base a "No" response to EAW Question 25a. It is the Responsible Governmental Unit's (RGU) obligation to verify the accuracy of the information contained within the EAW. A "No" response to Question 25a without written justification should be carefully considered.

If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic architectural properties, you may need to hire a qualified archaeologist and/or historian. Please contact the SHPO by phone at 651-296-5462 or by email at mnshpo@mnhs.org for current lists of professional consultants in these fields.

The Minnesota SHPO Survey Manuals and Database Metadata can be found at
http://www.mnhs.org/shpo/survey/inventories.htm

Tom Cinadr
Survey and Information Management Coordinator
Minnesota State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. West
St. Paul, MN 55102

651-205-4197 (voice)
651-282-2374 (fax)

-----Original Message-----
From: Diane Spector [mailto:dspector@wenck.com]
Sent: Wednesday, May 24, 2006 1:06 PM
To: Cinadr, Thomas
Subject: File Search Request

Our firm is preparing a wetland restoration and mitigation plan for a client in Benton County who has been ordered by the US Army Corps of Engineers to remove fill placed in a wetland. As part of this restoration and mitigation plan, we are required to determine if the proposed actions in the plan would impact any cultural resources.

The property location is:
Benton County
T37 R31 S34

Henkemeyer Demolition Landfill
6045 Lark Road
Sauk Rapids, MN

Diane Spector
Wenck Associates, Inc.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, MN 55359-0249
Phone: 763/ 479-4280
Fax: 763/ 479-4242

History/Architecture

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY **Benton**											
CITY/TOWNSHIP: Watab Twp.											
Fort Ripley Military Road: Watab Segment	Co. Hwy. 55	37	31	34		Little Rock Lake					BN-WAT-006
Old Section of TH 10		37	31	34	SW-NE						BN-WAT-008
Brainerd Branch: Sauk Rapids to Brainerd Railroad		37	31	34		Little Rock Lake					BN-WAT-009

Appendix E

USACE Standard Performance Bond Model

PERFORMANCE BOND

DATE BOND EXECUTED (Must be same of later than date of consent decree)

PRINCIPAL (Legal name and business address)	Surety(ies) (Legal name(s) and business address(es))
TYPE OF ORGANIZATION ("X"ONE)	PENAL SUM OF BOND
___Individual ___Partnership Joint Venture Corporation	Million(s) / Thousand(s) / Hundred(s) / Cent(s)
STATE OF INCORPORATION	CIVIL CASE NO. / DATE OF CONSENT DECREE

OBLIGATION:

The Principal and Surety(ies) are firmly bound to the United States Army Corps of Engineers (hereinafter called the Corps) in the above penal sum. For the payment of the penal sum, the Principal and Surety(ies) bind themselves, their heirs, executors, administrators, assigns, and successors, jointly and severally. For purposes of a civil action(s) by the Corps to enforce this bond, the Surety(ies) acknowledge that the action(s) may be brought against each or any of them in any court of competent jurisdiction, regardless of the joinder of any other sureties. Each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety below and, if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum of this bond.

CONDITIONS:

The Principal entered into the consent decree identified above.

THEREFORE:

The above obligation is void if the Principal –

(a) Specifically performs and fulfills all of the obligations, covenants, terms, conditions and agreements of the restoration and mitigation requirements in the consent decree, and

(b) Also specifically performs and fulfills all of the obligations, covenants, terms, conditions, and agreements of any and all duly authorized modifications of the restoration and mitigation requirements in the consent decree that may hereafter be made. The Surety(ies) waive(s) notice of those modifications.

IT IS FURTHER EXPRESSLY PROVIDED THAT:

The Corps shall have the full and final authority to determine whether the Principal and Surety(ies) have specifically performed and fulfilled some or all of the obligations, covenants, terms, conditions and agreements of the restoration and mitigation requirements in the consent decree.

Within thirty (30) calendar days of receiving notice from the Corps that the Principal has defaulted on some or all of the obligations, covenants, terms, conditions and agreements of the restoration and mitigation requirements in the consent decree, the Surety(ies) shall either -

(a) Remedy the default of the Principal to the full satisfaction of the Corps, or -

(b) Make a written commitment to the Corps to remedy the default of the Principal to the full satisfaction of the Corps and, by a date certain determined by the Corps, implement that commitment, or -

(c) Immediately tender to a party or parties identified by the Corps the portion of the penal sum that the Corps determines is due and owing and necessary to remedy the default (in no circumstance shall such a sum be tendered directly to the Corps), or -

(d) In the event of any judicial action by the United States to enforce any term or condition of the restoration and mitigation requirements in the consent decree, the Surety(ies) shall: (i) implement any mitigation, remediation or other remedy ordered by the court, or (ii) pay the full penal sum of the bond, or such portion as the court may direct, to a party or parties specified by the court in an appropriate order. Nothing in this paragraph shall limit the ability of the United States to bring legal action against the Surety(ies) to this bond in the event of a default by any of them.

In the event that the Surety(ies) fail(s) to satisfactorily respond within thirty (30) calendar days to the Corps' notice of default, or to honor commitments to the full satisfaction of the Corps under (a) or (b) above, the Surety(ies) shall, at the election of the Corps, immediately tender the full penal sum of the bond (or such portion determined by the Corps) to a party or parties identified by the Corps. In no circumstance shall any portion of the penal sum be tendered directly to the Corps.

EXECUTED BY:

The Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

PRINCIPAL		
Signature 1	Signature 2	Corporate Seal
Name, title 1 (typed)	Name, title 2 (typed)	

CORPORATE SURETY(IES)		
Surety A		
Legal Name & address	State of Incorporation	Liability limit
Signature	Name, title (typed) (Seal)	
Surety B		
Legal Name & address	State of Incorporation	Liability limit
Signature	Name, title (typed) (Seal)	
Surety C		
Legal Name & address	State of Incorporation	Liability limit
Signature	Name, title (typed) (Seal)	

INSTRUCTIONS

1. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. The Principal must insure that the person executing the bond on its behalf is authorized to bind the Principal and shall, on request, provide documentation satisfactory to the Corps demonstrating that authority.

2. Only corporate sureties are allowed to execute this performance bond. Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitations listed therein. The name, address, and signature of each surety shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." Where more than one surety is involved, in the space designated "SURETY(IES)" on face of the form, insert only the identification letters of the sureties.

3. Corporations executing the bond shall affix their corporate seals and provide a power of attorney or other documentation satisfactory to the Corps demonstrating that the agent executing the bond on behalf of the Surety is authorized to bind the Surety.

Appendix F

Resumes

Wenck

Michael A. Panzer, PE PG

Vice President

AREAS OF EXPERTISE:

- Watershed Engineering
- Water Resources
- Contaminated Site Investigation and Remediation
- Solid Waste Engineering

EDUCATION:

Bachelor of Geological Engineering with Distinction,
University of Minnesota, 1977

REGISTRATION:

Professional Engineer: MN, FL, TX, WV

Registered Professional Geologist: Minnesota

ARCPACS Certified Soil Erosion/Sediment Control Specialist

PROFESSIONAL EXPERIENCE:

1989-Present
Wenck Associates, Inc.
Vice President (1991-Present)
Program Manager (1989-1991)

1977-1989
Consulting Engineer
Branch Manager (1988-1989)
Vice President (1987-1988)

1972-1974
Consulting Engineer

PROFESSIONAL MEMBERSHIPS:

Amer. Society of Civil Engineers
Seminar Planning Committee, Minnesota Section

American Registry of Certified Professionals in Agronomy, Crops and Soils

American Water Resources Association

INTRODUCTION

Mr. Panzer is an experienced project manager in water resources engineering and geotechnical issues, hazardous waste remediation, contaminated site investigation and remedial design, solid waste engineering, and water resources.

SELECTED EXPERIENCE

Water Resources Projects

Principal in Charge and district engineer, Minnehaha Creek Watershed District, for several years (1981-1989 and 1992- present). District covers 190 square miles and includes 30 communities in the Minneapolis area. Accomplishments:

- TR-20 Hydrologic Model for entire District
- Drafted original Water Resources Management Plan. Developed second generation WRMP in 1997.

- Design Engineer and Project Manager for nearly every capital improvement project over the years, including:
  - New Lake Minnetonka Control Structure
  - Painter Creek Subwatershed Improvements
  - Minnehaha Creek Dredging--Highway 100
  - Minnehaha Creek Dredging--West 44th Street
  - Long Lake Improvement Project
  - Twin Lakes/Cedar Lake Improvement Project
  - Southwest Calhoun Improvement Project
  - Lake Nokomis Improvement Project
  - Pamela Lake Regional Pond/Wetland Restoration
  - 60th and 1st Flood Control and Water Quality Project

  Many projects involved implementing a wide-variety of best management practices (BMPs), involving technical and economic evaluation of BMPs. A number of the projects also involved quantifying nutrient loadings for use in evaluation load allocation with in-lake models.

- Design Engineer and Project Manager for studies such as:
  - Minnehaha Creek Hydraulic Study (HEC-2)
  - Jennings Bay Feasibility Study
  - Lake Diagnostic-Feasibility Studies (Zumbra, Grass, Mooney, etc.)
  - Lake Minnetonka Outlet - Operating Plan and Permit
  - Lake Nokomis Feasibility Study
  - Southwest Calhoun Feasibility Study
- Client Representation, such as:
  - Oversight of monitoring and permitting programs
  - Representation of District at meetings and hearings
  - Expert testimony and litigation support

Project Engineer, Rice Creek Watershed District:
- Long Lake restoration project (Minnesota's second largest EPA-funded restoration)
- Wetland management
- Ditch improvements
- White Bear Lake outfall, a 4,200-foot long storm sewer outfall to control flooding of a developed residential area
- First regional wet detention basin built in the metropolitan area.

Project Manager Coalition of Greater Minnesota Cities
- Evaluation of Minnesota Water Quality Standards
- Model process to evaluate compliance options

Project Manager MPCA TMDL Program

Project Engineer, Clearwater River Watershed District:
- Pleasant Lake outlet project
- Lake Augusta wet detention basin and outlet
- Expert witness services

Project Manager, Metropolitan Waste Control Commission Minnesota River study involving water quality modeling and feasibility studies for aeration and oxygen injection near two major effluent discharge points.

PUBLICATIONS

"A Watershed Approach to Lake Restoration." Coauthor. 5th National Volunteer Monitoring Conference, Madison, Wisconsin. August 5, 1996.

"A Long-Term Watershed Hydrologic Data Program." Coauthor. 16th Annual ASCE Water Resources Seminar.

"Practical Application of Advanced Oxidation Groundwater Treatment, Central Sanitary Landfill."

"Watershed Best management Practices." Special Session Proceedings. 1998 Sixteenth Annual North American lake management Society International Symposium.

"Lake Phosphorus Budgets and Water Quality Response Models", Minnesota Environmental Science and Economic Review Board Environmental Seminar, 1998.

"Phase II Storm Water Management & TMDLs: An Opportunity for Watershed Districts", Coauthor, Minnesota Association of Watershed District's 2000 Annual Meeting.

Wenck

Thomas J. Shustarich, PE

Project Manager

AREAS OF EXPERTISE:

- Landfill Permitting and Design
- Construction Management
- Transfer Station Design and Permitting

EDUCATION:

B.S., Civil Engineering, Princeton University, 1986

REGISTRATION:

Professional Engineer, MN

PROFESSIONAL EXPERIENCE:

1994-Present
Wenck Associates, Inc.
Project Manager

1988-1994
Consulting Engineering Firm, MN
Project Manager
Project Engineer

1986-1988
Consulting Engineering Firm, MN
Project Engineer

INTRODUCTION

Mr. Shustarich has 16 years of environmental consulting experience focusing mainly on landfill engineering and construction management, transfer station permitting, design, construction management, and solid waste planning and management. He has worked with public and private industries as well as government and regulatory agencies in Minnesota, North Dakota, South Dakota, Iowa, and Wisconsin.

SELECTED EXPERIENCE

Clay County Landfill, MN: Project manager and project engineer at this site for over 10 years. Work includes permitting, development of plans and specifications and construction oversight for numerous cell and closure construction projects, EAW preparation, preparation of annual reports, evaluation of leachate treatment and gas management alternatives, and groundwater remediation projects. One groundwater remediation project consisted of excavating and relocating over 50,000 cubic yards of MSW. The client has benefited from the additional airspace capacity gained through the above projects, which has delayed the siting of a new landfill site.

Pine Bend Landfill, MN: Project manager and design engineer for landfill expansion permitting services. The design included 3:1 terraced final cover slopes and an overfill of previously closed areas. It also included the phased development of an active gas collection system and completion of an EAW. The permit expansion will enable the client to gain substantial airspace volume at the landfill by filling a valley between the current waste fill areas.

Koochiching County Landfill, MN: Project engineer for closure of this 40-acre landfill site. The project includes on-site waste excavation and relocation to consolidate the footprint and provide grade correction. The project also installed an active gas extraction system and involved the use of a geonet geocomposite as an alternative to a granular drainage layer. The benefit to the client was the installation of an active gas system to improve air quality near the

landfill site. The project was completed with minimal construction change orders and addendums.

Homestake Gold Mine, Lead, S.D.: Project manager for the construction of a lined demolition debris landfill to accommodate the material from the process and mining building demolition. The project was accomplished on the fast track to enable the phased and planned sequencing of the demolition activities to remain on schedule.

Polk County, MN: Project manager and engineer for permitting, cell construction and cell closure activities for the Polk County landfill's MSW, ash, and demolition debris disposal areas. With the three separate disposal areas and variety of activities taking place, the client benefits from an organized and detailed oversight of landfill engineering and operational activities.

MPCA-Northwoods, Ely, MN: Project manager for this MPCA project, which included design and construction oversight for final closure of a 12-acre landfill. The project also included incorporating waste relocated from a nearby landfill. The project was completed on schedule, which allowed the incorporation of relocated waste from a nearby landfill. The property on which the nearby landfill was located could then be redeveloped for other uses.

St. Louis County, MN: Project engineer providing permitting, design, and construction management services for the regional landfill. Also assisted in preparing a solid waste management alternatives study for the County, which included evaluation of transfer station systems, landfills, composting, and refuse-derived fuel markets. The regional landfill is situated on an old mine spoils area which through Wenck's geotechnical and engineering analysis and design was able to be permitted and utilized for a landfill site.

LTV Steel Mining Company Ash Landfill, Hoyt Lakes, MN: Project manager for final closure design and construction at this ash landfill. The project involved installation of a geomembrane cap over an unlined ash landfill to prevent migration of leachate contamination. This project was completed as part of mine closure activities in a timely and cost effective manner.

Cook County Landfill, MN: Project manager for the final closure of an existing municipal solid waste landfill.

Waste Management of MN: Project manager providing services for numerous transfer station permitting, design, EAW, stormwater permitting, and construction projects throughout Minnesota.

Mar-Kit Recycling and MSW Baling Facility, Hallock, MN: Project manager for the design, bidding, and construction oversight of this 115-foot by 220-foot pre-engineered steel building on concrete foundation.

City of Fargo, ND: Assisted with installation of a flare as part of an active gas collection system at the landfill. Also assisted with the preparation of a Cost of Service Study for the City of Fargo Division of Solid Waste. The Study provided a complete cost and rate analysis of the City's solid waste management system, which includes residential and commercial collection, roll-off service, landfill, and recycling/household hazardous waste.

East Central Materials Recovery/Composting System, MN: Project engineer for construction oversight and monitoring of the 250 TPD facility, design of sedimentation basin and on-site sewage treatment system, and preparation of EAW and MPCA permit application.

Prairieland Composting Facility, MN: Project engineer for completion of EAW, MPCA permit, and grant applications for the 100 TPD facility.

Carlton County Landfill, MN: Project manager for design modifications to an existing compactor-type transfer station. Project Engineer for geotechnical and hydrogeologic investigation, leachate treatment planning and closure of a municipal solid waste landfill.

Lyon County Landfill, MN: Project engineer for methane soil-gas survey, report on gas migration and recommendations for monitoring and control.

Grand Forks Landfill, ND: Hydrogeologic investigation and design of vertical expansion of this municipal landfill.

Flying Cloud Landfill, MN: Assisted in design of groundwater treatment system in highly sensitive Superfund project.

City of Sartell Wastewater Treatment Lagoons, MN: Project engineer supervising the removal and land spreading of PCB-contaminated sludge.

Tri-County Solid Waste Management Commission, MN: Project engineer providing services to select candidate landfill sites, including siting criteria, screening maps, field investigation, and meetings.

Interstate Power, IA: Supervised monitoring well installation and soil sampling for EPA remedial investigation.

Minnetonka Public Schools, MN: Project engineer for installation of three 12,000-gallon underground fuel oil tanks and removal of five tanks.

Minnesota Air National Guard Base, Minneapolis/St. Paul International Airport, MN: Prepared a Corrective Action Design Report for a petroleum-contaminated soil site.

American Crystal Sugar Co., MN and ND: Project engineer for industrial solid waste permitting at ACS facilities in Drayton and Hillsboro, North Dakota and East Grand Forks, Moorhead, and Crookston, Minnesota.

Wenck

Wes Boll

Environmental Scientist

AREAS OF EXPERTISE:

- Wetland Delineation and Monitoring
- Biological Surveys and Monitoring
- Surface Water Sampling
- GIS Support using ArcView 3.x and ArcMap 9
- GPS Data Collection and Surveying
- Emergency Response

EDUCATION:

B.A. Environmental Studies with Biology Emphasis, Double Major Geography.
Gustavus Adolphus College
St. Peter, MN (2001)

Supplemental Courses
Limnology, University of MN (2003)
MN Wetland Plants, WTI (2005)

PROFESSIONAL EXPERIENCE:

2001-Present
Wenck Associates, Inc.

1999-2001
Carver County Environmental Services
Water Quality Intern

REGISTRATION:

Certified Wetland Delineator, MN

HAZWOPER 40 Hour Certification

Wetland Delineation 38 Hour Training

Advanced Wetland Delineation 40 Hour Training

INTRODUCTION

Mr. Boll joined Wenck Associates, Inc. after completing his internship with Carver County Environmental Services in 2001. His professional duties focus on wetland delineation and wetland management. He has performed delineations in many counties throughout the state of MN. He also has been involved with wetland restorations, permitting, classification and assessments. Other duties include invertebrate and fisheries monitoring and assessment, plant surveys, surface water monitoring, data analysis, and data processing. He also is skilled in working with Geographical Information Systems (ArcView 3.x, ArcMap 9) and highly precise Trimble GPS units, and has integrated the use of this technology into numerous projects.

SELECTED EXPERIENCE

Wetland and Natural Resources

MNDOT Highway Corridors

CSAH 8, Chisago County
Performed wetland delineation and prepared wetland delineation report for expansion corridor along CSAH 8 in Chisago County. Estimated wetland impact for highway expansion project. (2002)

CSAH 70, Dakota County
Reviewed historic aerial photos and investigated potential wetland areas. Delineated wetlands along CSAH 70 expansion corridor in the Lakeville, MN. Mapped wetland boundaries with GPS and prepared wetland delineation report. Coordinated with City of Lakeville to assess wetland impacts and approve delineated wetlands. (2003-2004)

US Highway 71, Beltrami and Hubbard Counties
Delineated wetlands and investigated areas of potential wetland along US Highway 71 expansion corridor in Bemidji, MN. Mapped wetland boundaries using GPS. Assessed wetland impact and prepared detailed wetland delineation report. Coordinated with county officials to approve delineated wetlands (2004-2005).

Polaris
Conducted wetland delineation on future building and test facility site in Chisago County. Conducted MNRAM functions and values assessment on wetlands on property. Prepared maps and figures for report using ArcView and ArcMap. Mapped equipment test trails to minimize wetland impacts using GPS technology (2004).

Independent School District #877
Prepared application for deposit of credits for wetland bank site on Buffalo High School property in Wright County. Delineated wetlands on property. Prepared permits for expansion on high school site (2004-2005).

Southern MN Construction
Delineated rock outcrop wetlands and conducted vegetation inventory on property slated for gravel mining expansion in Renville County. Incorporated GIS to determine site characteristics and identify potential wetlands. Prepared figures and report for EAW on the site (2004-2005).

Aggregate Industries
Performed off site wetland delineation by using GIS to review historic aerial photos and other electronic data to determine the location of potential wetlands. Delineated wetlands on the site property in Otter Tail, Clay and Becker counties. Conducted vegetation inventory, located and documented locations of special concern prairie plant species, and assessed prairie chicken habitat. (2005)

Calpine
Delineated wetlands along pipeline route in Blue Earth County. Conducted site feature inventory along route and identified areas of potential wetland impact. (2003-2004)

Moose Lake Trail
Identified wetlands along six miles of proposed snowmobile trail in St. Louis County (2003).

Skip Lamb Property
Conducted wetland delineation and potential wetland impact assessment on property in Cook County (2004).

Zupp's Grocery Store
Conducted wetland delineation and assessment on property in St. Louis County (2002).

Wetland Bank Monitoring
Conducted annual monitoring visits, including assessment of vegetation and hydrology for restored or created wetlands in Anoka, Hennepin, and Wright County. Prepared annual monitoring reports (2003-present).

Surface Water

Shingle Creek Watershed Management Commission.
Completed field work, macroinvertebrate survey, and GIS analysis for the ecological corridor study on Shingle Creek through northern Hennepin County. The purpose of the study is to prepare a vision of what this urban creek could become by incorporating environmental design principles into channel restoration projects for the nine miles of channel from Brooklyn Center to Plymouth. Conducted analysis of present and historic fish populations for lake TMDLs. (2003-present).

Cedar Meadows, Minnehaha Creek Watershed District. Conducted performance monitoring and site survey for evaluation of phosphorus removal efficiency of stormwater wet detention ponds (2004).

Minnehaha Creek Stream Assessment. Field services manager for a geomorphic and habitat quality assessment of Minnehaha Creek. The study included field surveys to evaluate stream stability and need for grade control, in addition to macroinvertebrate sampling for evaluation of IBI. Assisted with physical inventory of Minnehaha Creek and five Upper Watershed Streams, as well as ACCESS and GIS database tools for review of inventory data (2003-2004).

Carver County Environmental Services
Monitoring of lakes and streams within Carver County. Helped in coordination of citizen lake monitoring program. Drinking water sampling in sensitive groundwater areas. Assisted in macroinvertebrate population survey to determine stream habitat quality. Biocontrol of exotic purple loosestrife and leafy spurge. Completed feedlot inventories and processed feedlot permits and applications according to state and county guidelines. Assisted with GIS projects using ArcView 3.2. (1999-2001)

Minnehaha Creek Watershed District
Weekly sampling of water bodies within the Minnehaha Creek Watershed. Stream flow gauging. Installation and operation of automated water sampling equipment (ISCO, Win-Situ TROLL, SonTek, YSI). Compilation of annual hydrodata report, including data processing and electronic lake and stream water quality report cards. Completion of various GIS projects, including digitizing watershed boundaries and storm sewer systems. Wetland investigations. Conducted inventory of physical features and conditions of streams. Field surveying. (2001-present)

Clearwater River Watershed District
Field inspection of watershed boundaries and GIS-based electronic digitizing of watershed boundaries and storm sewers. Production of maps for reports. Lake sediment core sampling. Surface water sampling and stream flow gauging. Time of travel dye study. Operation of automated sampling station. Field Surveying. (2001-present)

Long Prairie River TMDL
Surface water sampling and travel time dye study. Watershed features investigation. Data entry and processing. Generated GIS based figures and maps for report. (2001-2003)

Appendix G

USACE Site Visit Comments

July 10, 2007

Comments on Henkemeyer Restoration Plan and Observations From Site Visit

1. Page 10: ERDC guidance recommends 15 inches for the depth of monitoring wells for most soils. However, for organic soils we have seen better results with deeper wells (e.g., 36 inches). The entire below ground section of the PVC should be slotted except for the bentonite seal 2 to 3 inches below ground surface.

2. Page 10: Monitoring of water table levels is proposed for May-Oct. However, monitoring should begin as soon as frost is out of the ground, which may be during the last two weeks in April as opposed to the first week in May.

3. Page 14, Item b., Goals for Vegetation under 1: The last part of the note should be deleted as shown here, "(Note: Buckthorn will be cut and stumps treated with herbicide ~~to achieve less than 20% areal coverage in the upland forest at the end of the third, fourth and fifth monitoring year~~.)". Buckthorn currently is less than 20% areal cover in the upland forest so this condition is already met. Item number 2 correctly states the goal of an 80% reduction in existing areal cover of invasive and/or non-native species.

During my site visit on 10 July 2007 I observed non-native honeysuckle shrubs in the same area as the buckthorn. Honeysuckles should be treated the same as buckthorn (e.g., cut and treated with herbicide). Honeysuckles are one of the invasive and/or non-native species listed on page 14 under item 3.

4. Page 14, item 3 also lists cattails as invasive and/or non-native species to be controlled. During the site visit, I observed that a dense stand of cattails has already colonized the westernmost and southernmost portions of the Phase III restoration area (see photographs). Wetland hydrology matching that of a shallow marsh appears to be established. Mr. Henkemeyer informed me that this area was cattails, not sedge meadow, prior to the fill placement. Control of the already established cattail stands would require large-scale herbicide applications with a low probability of success because the hydrology established in the restored area is ideal for cattails and not sedge meadow species. In my opinion, it would not be worthwhile to expend the time and money in attempting to spray out the cattails and seed this area with the sedge meadow seed mix. This particular area may have been a cattail marsh to begin with as Mr. Henkemeyer stated. Therefore, I recommend that we make an exception for cattail control in this area. Again, it is not the entire area of Phase I, just the westernmost and southernmost portions.

5. As of 10 July 2007, substantial fill removal in Phases I and II had also occurred. Fill is being removed to or a few inches above the elevation of the native organic soils as specified. These areas were about 80 percent unvegetated (see photos). Shallow, standing water was present in approximately one-fourth of the restored area. Elevations suitable for saturated soils and sedge meadow communities were being established. There is more microtopography than expected, but natural wetlands exhibit this and a flat "bath tub" effect is not desirable. Mr. Henkemeyer showed me the small bulldozer that he proposes to use to scrape off the last few inches of fill. It is relatively lightweight and has wide tracks to distribute that weight thereby reducing concerns with compaction of the organic

soils. Prior to seeding, ATVs with drags would be used to prepare the soil for seeding. This approach is acceptable in my opinion.

6. My site visit confirmed that the existing natural wetlands to be preserved and enhanced include high quality sedge meadow communities similar to those that were subject to the unauthorized fill placement. Invasives such as reed canary grass are only present on the fringes. Herbicide treatment and controlled burns would prevent further advance of the invasives and restore native species. It would be in-kind, on-site compensation.

Steve Eggers
Regulatory Branch